

# KIC 005980354

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005980354-01	OBS	5218.01	1.573005	132.317857	2.4	16.948	10.6	2.1	1.45	6770	0.23	4716.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005980354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005980354-01

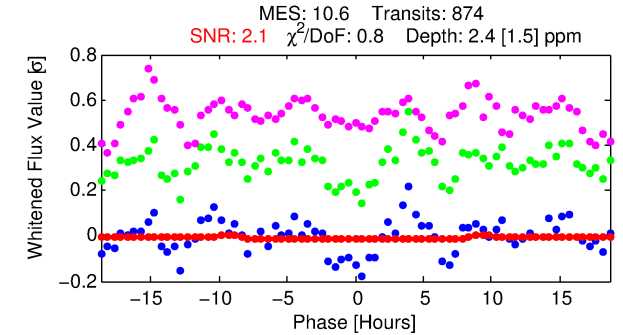
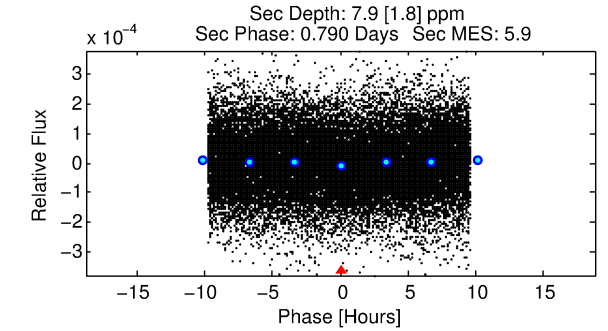
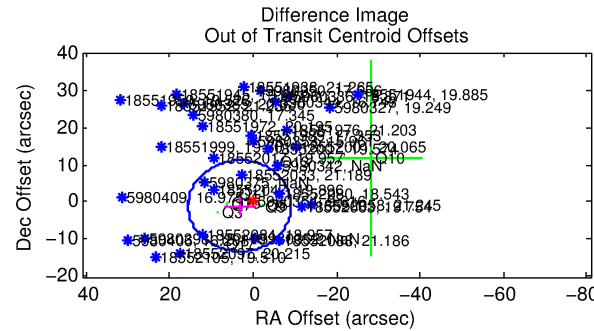
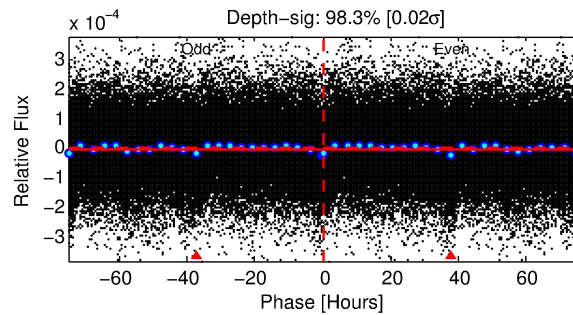
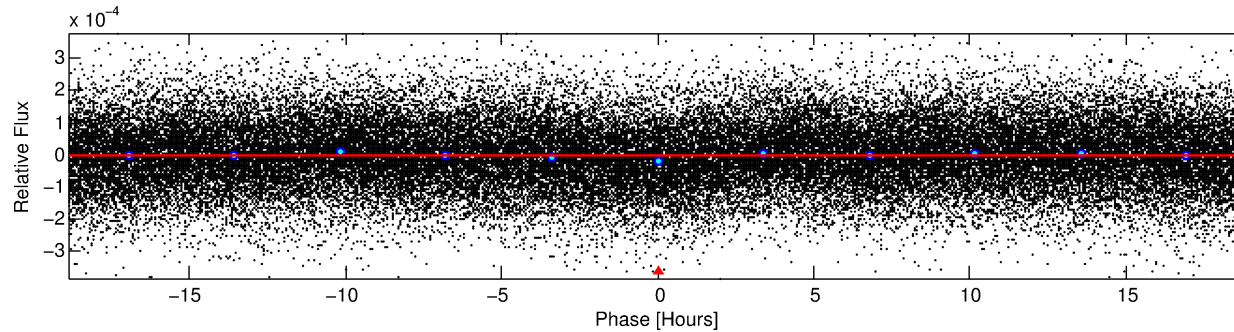
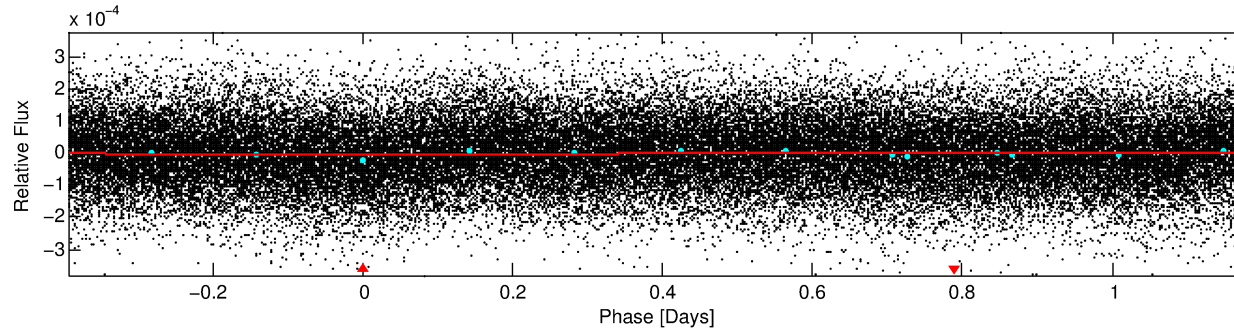
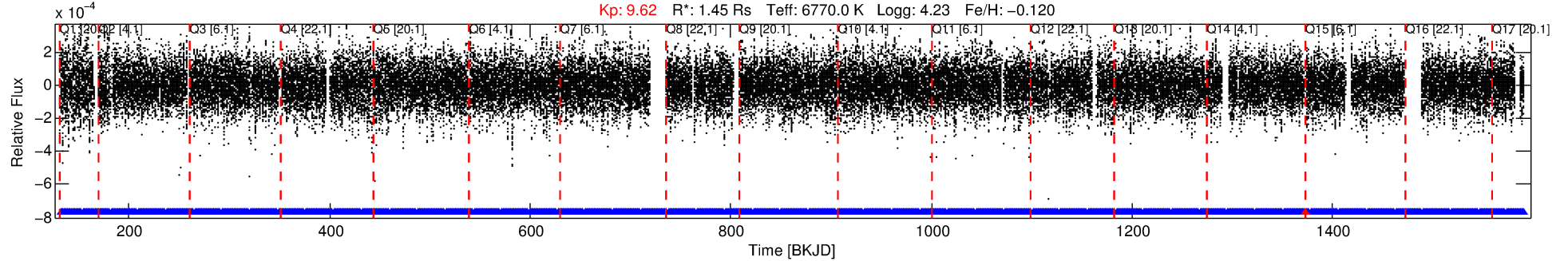
No Significant Match Found

# DV One-Page Summary

KIC: 5980354 Candidate: 1 of 1 Period: 1.573 d

KOI: K05218.01 Corr: 0.904

Kp: 9.62 R\*: 1.45 Rs Teff: 6770.0 K Logg: 4.23 Fe/H: -0.120



## DV Fit Results:

Period = 1.57300 [0.00013] d  
Epoch = 132.3179 [0.0269] BKJD  
Rp/R\* = 0.0014 [0.0041]  
a/R\* = 1.01 [0.43]  
b = 0.29 [52.19]  
Seff = 4716.88 [1011.81]  
Teq = 2113 [113] K  
Rp = 0.23 [0.65] Re  
a = 0.0289 [0.0041] AU  
Ag = 69.16 [391.87] [0.17σ]  
Teffp = 9422 [13339] K [0.55σ]

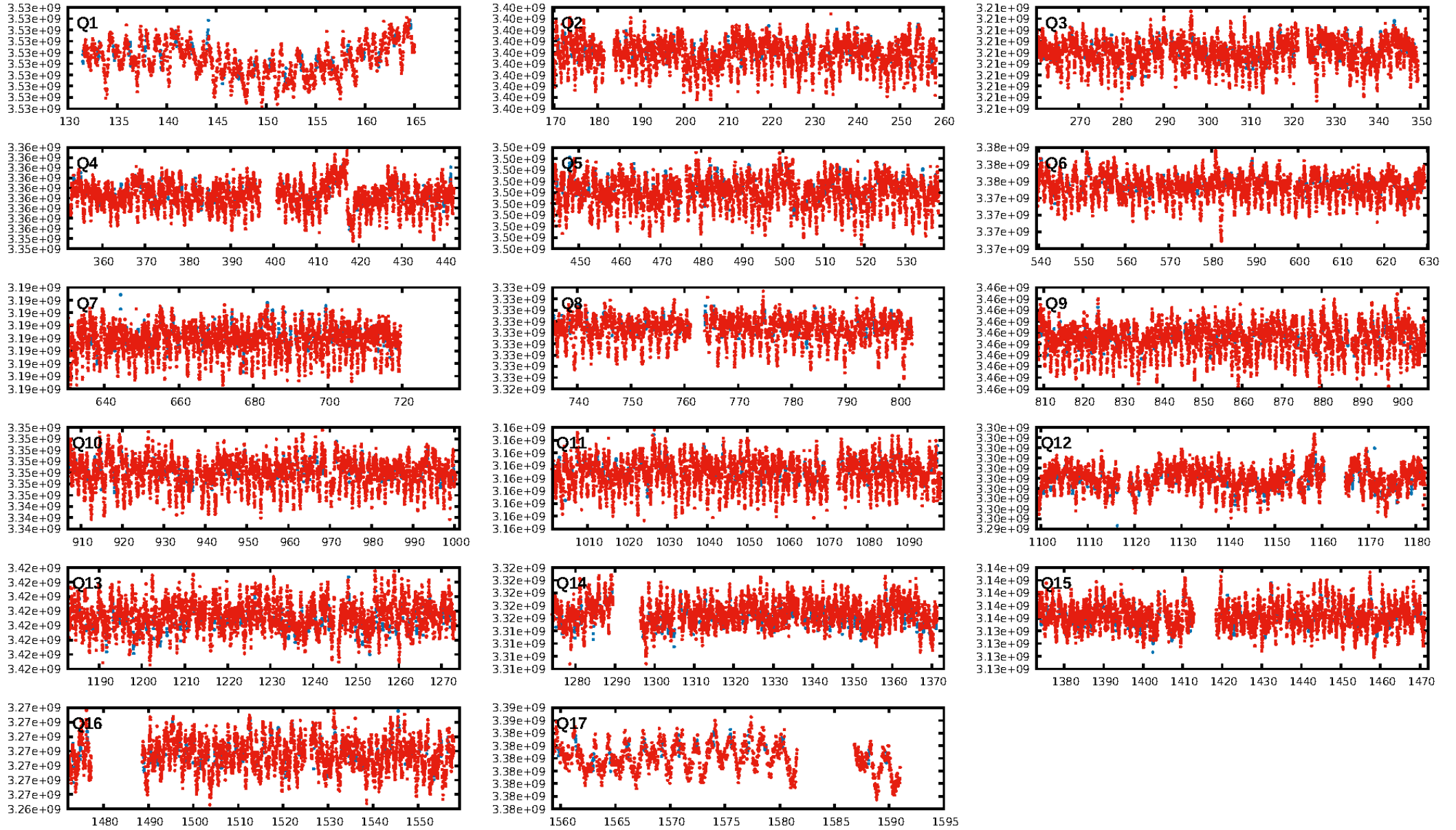
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [834/835]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 3.416 arcsec [0.83σ]  
KicOffset-rm: 3.125 arcsec [0.87σ]  
OotOffset-st: 1/4/0/4 [9]  
KicOffset-st: 1/4/0/4 [9]  
DiffImageQuality-fgm: 0.44 [4/9]  
DiffImageOverlap-fno: 1.00 [17/17]

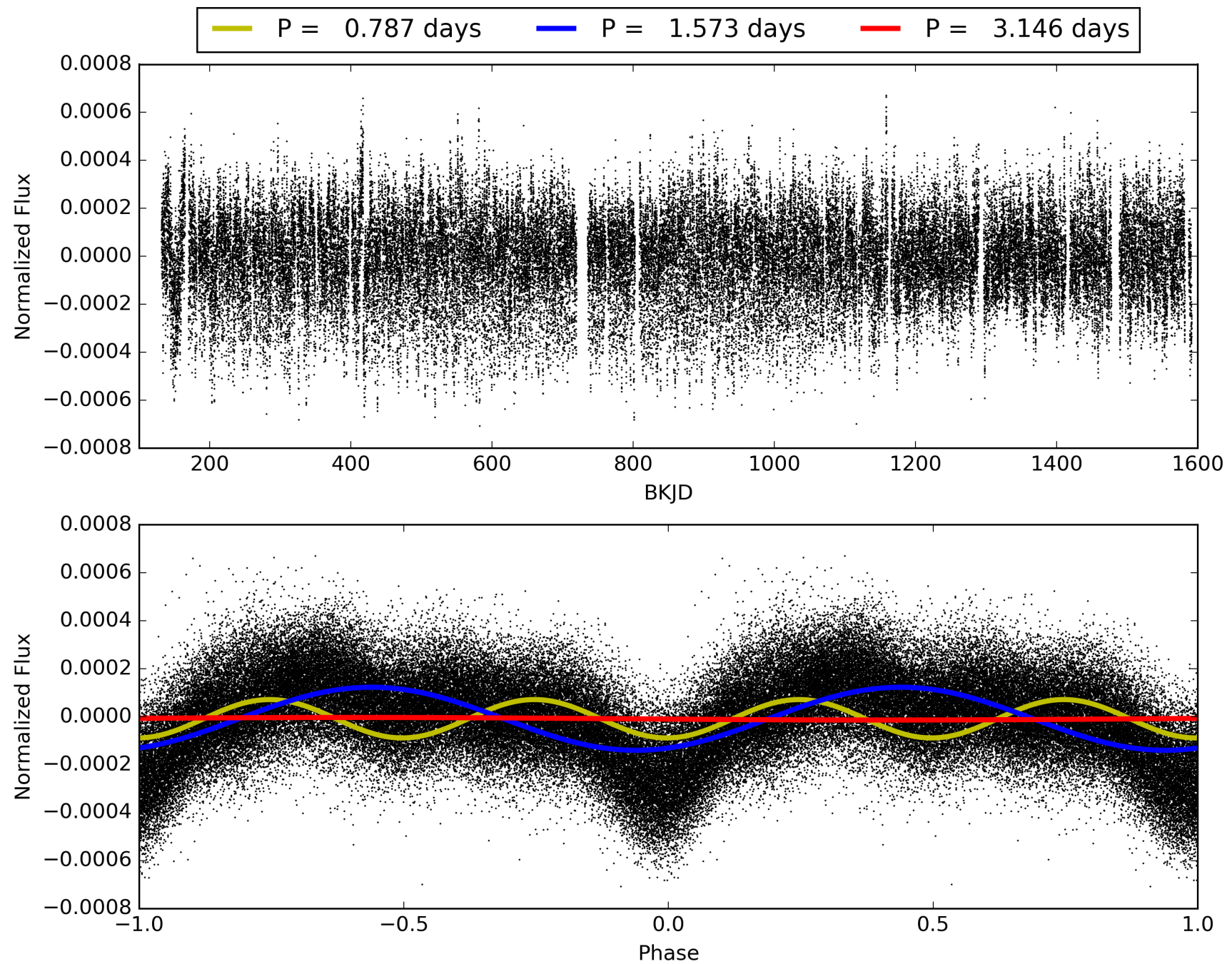
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:44:49 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005980354-01, PDC Light Curves



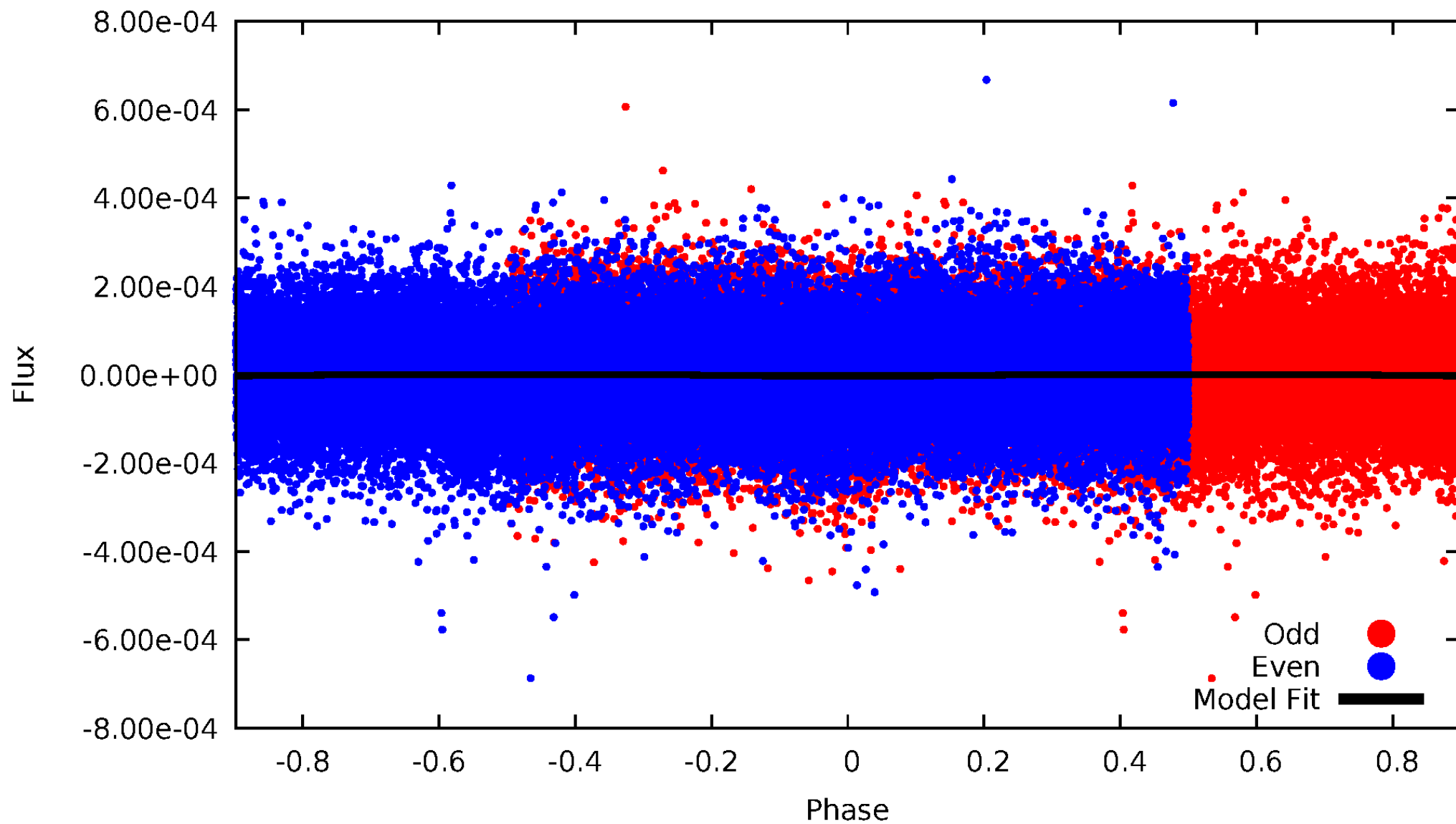
TCE 005980354-01





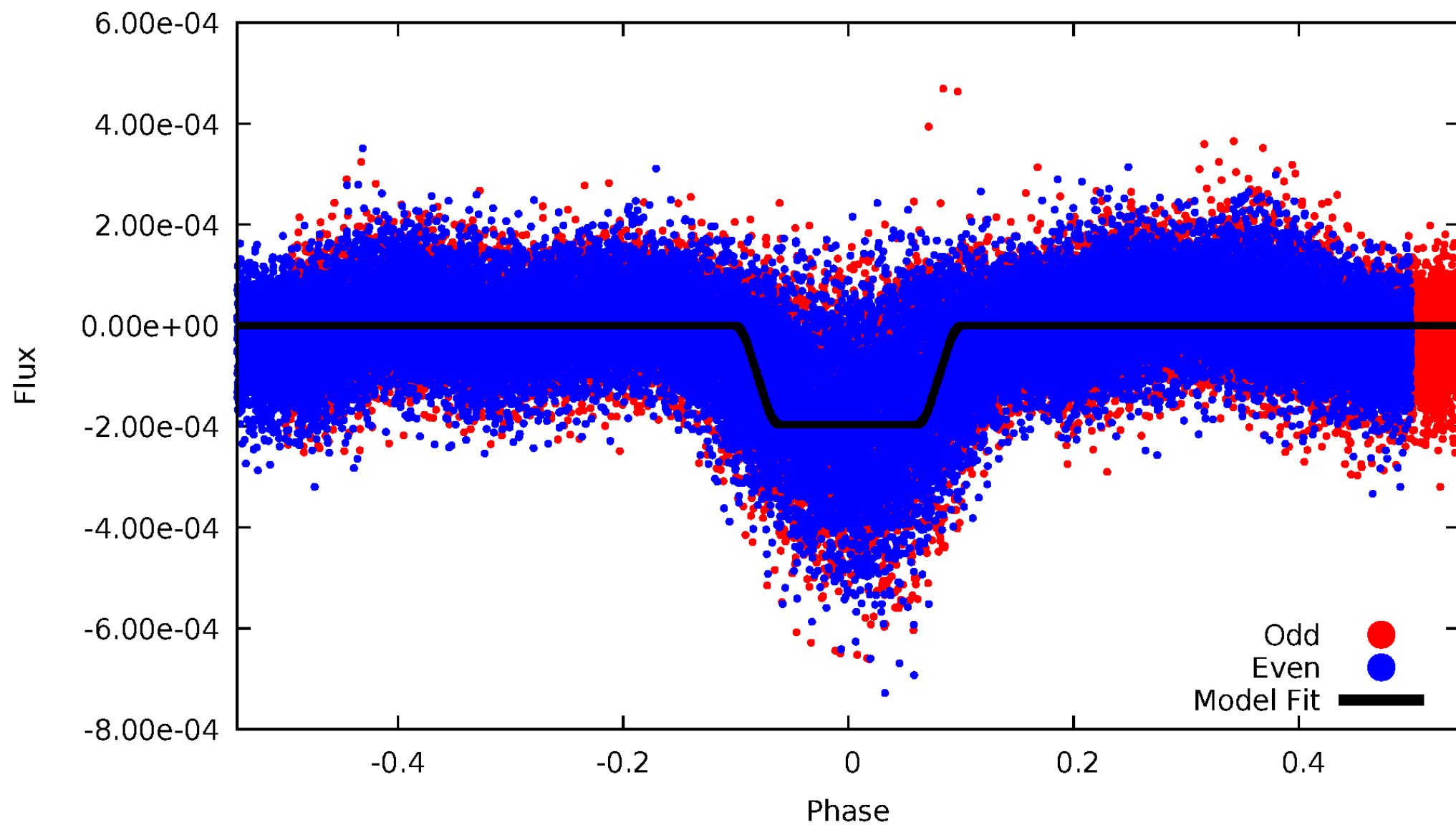
# DV Odd/Even

TCE 005980354-01



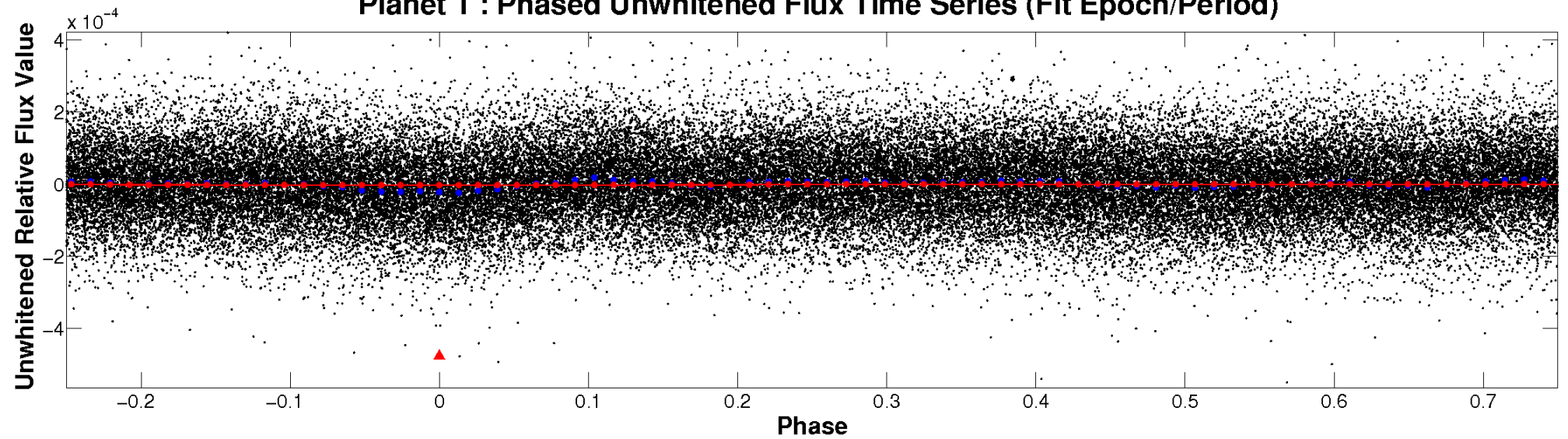
# ALT Odd/Even

TCE 005980354-01

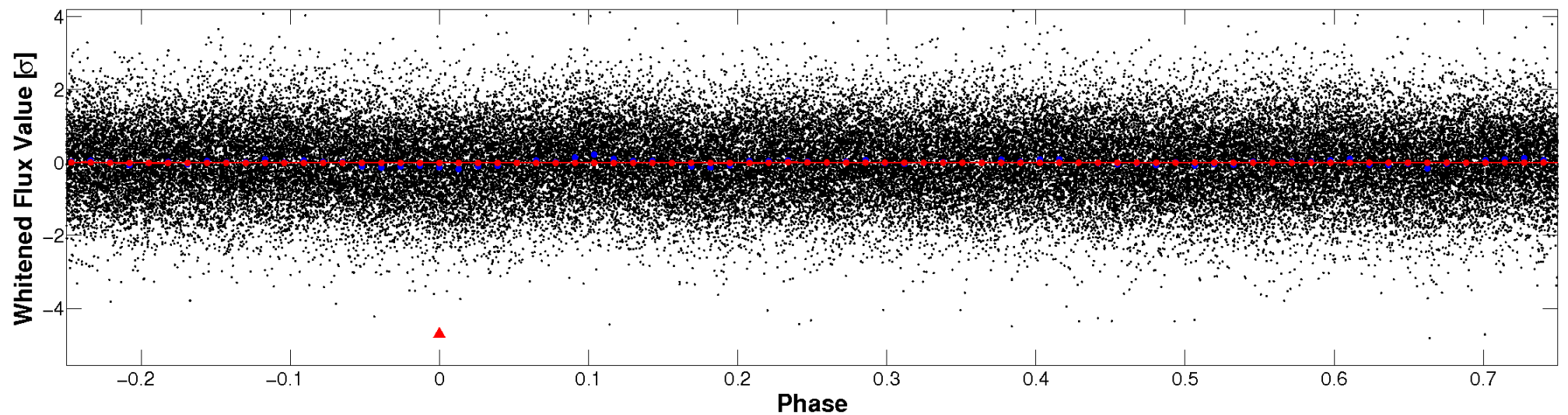


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

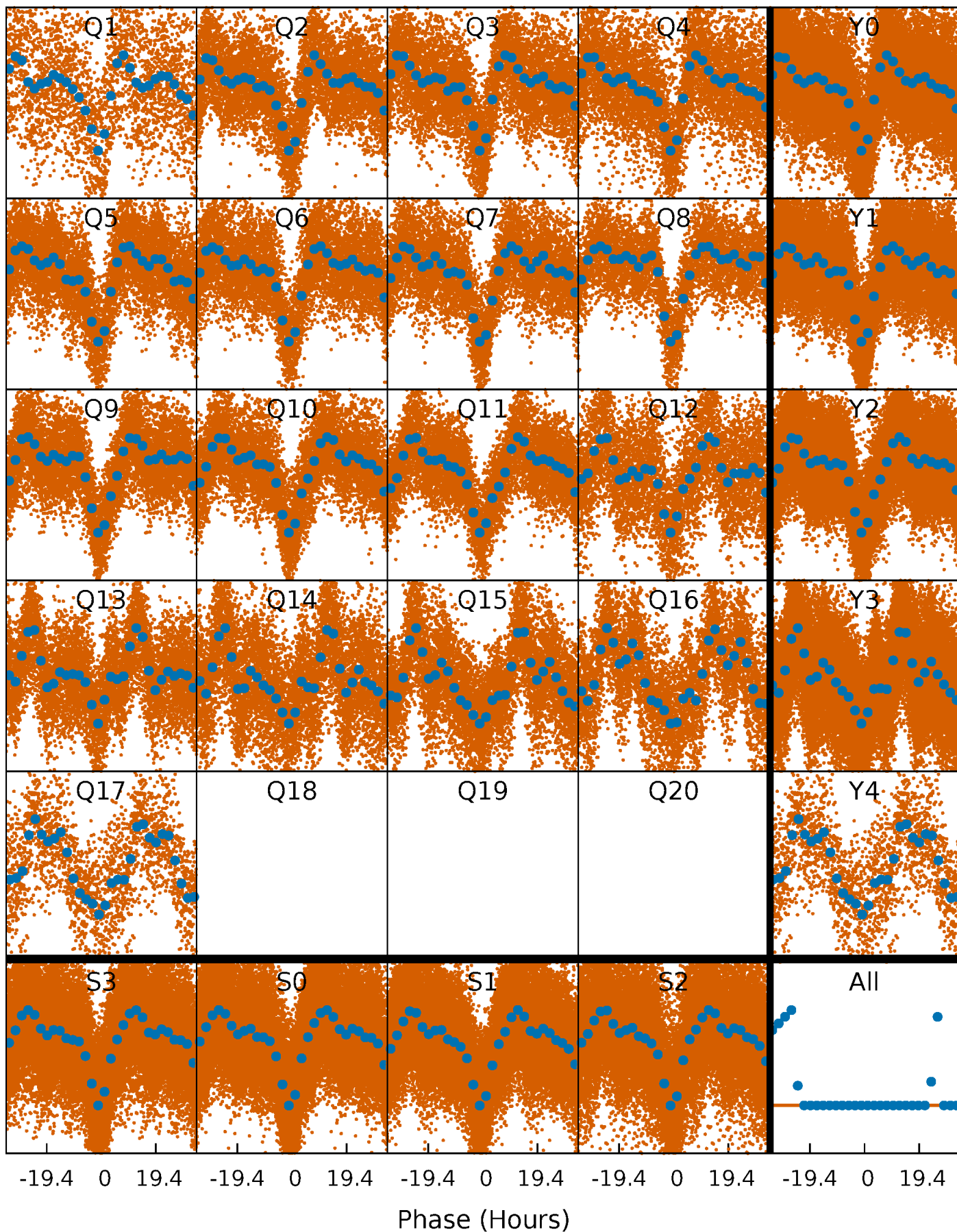


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

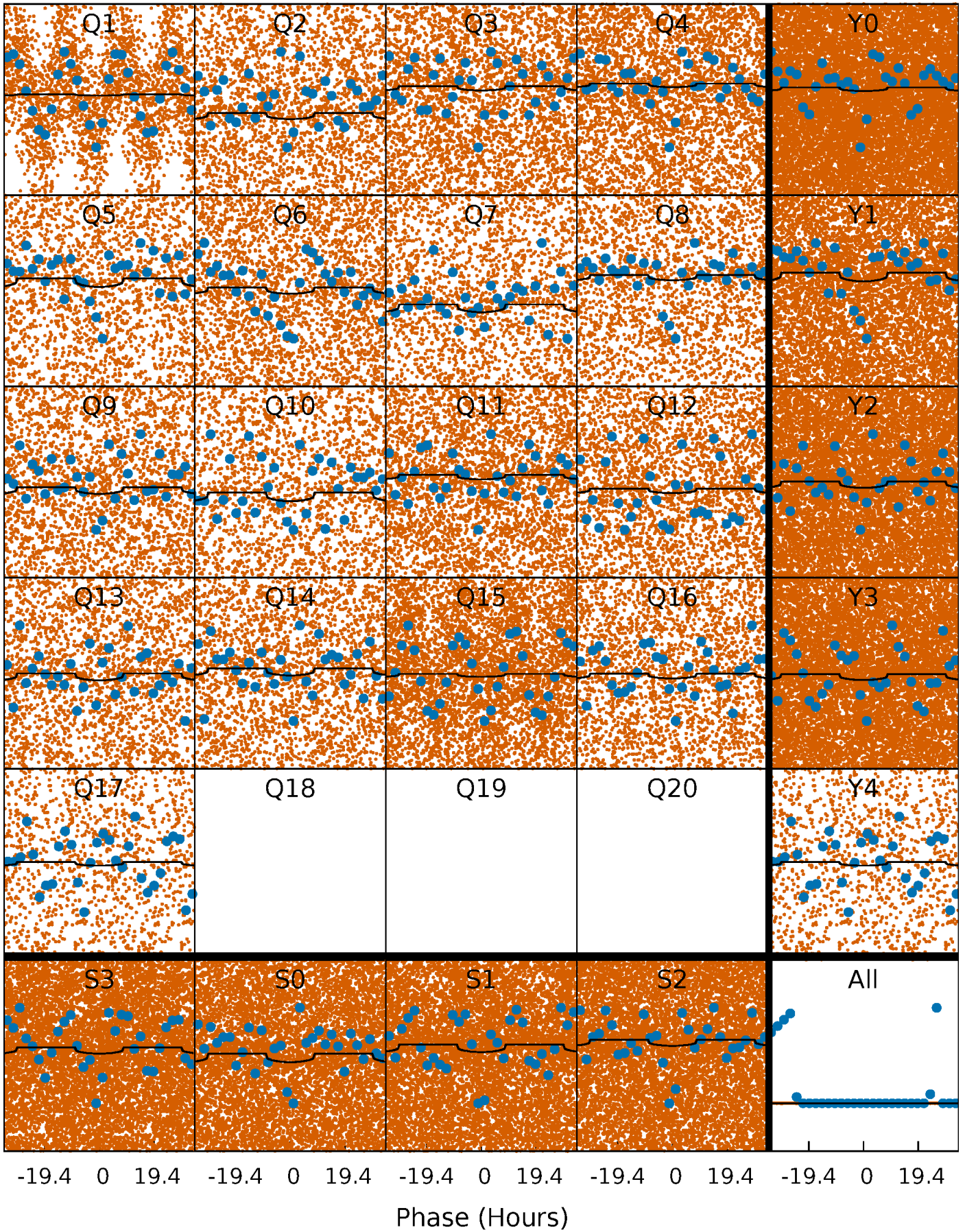
TCE 005980354-01   P= 1.573005 Days    $T_0=132.317857$  (BKJD)





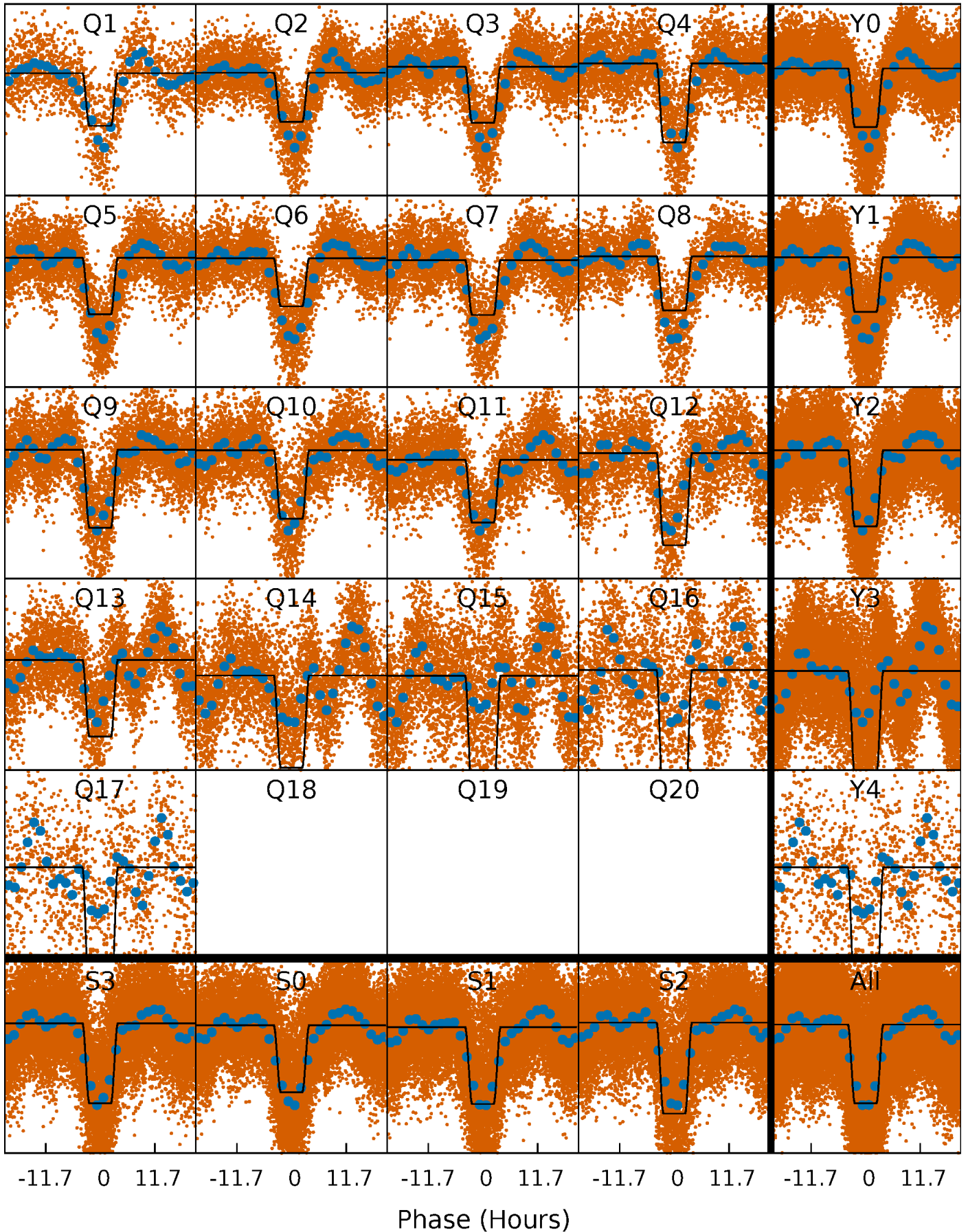
# DV Quarter-Phased Transit Curves

TCE 005980354-01 P= 1.573005 Days  $T_0=132.317857$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

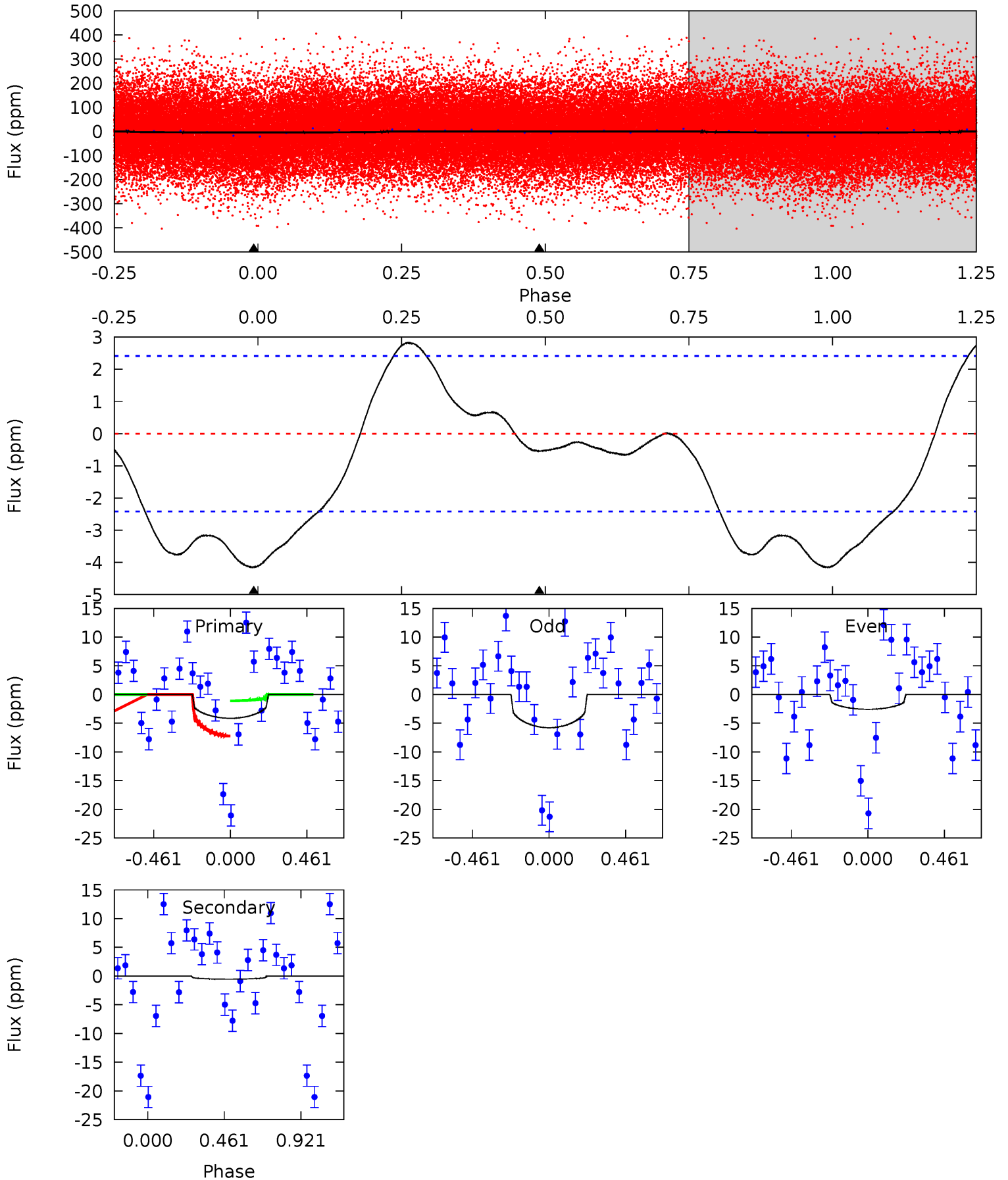
TCE 005980354-01   P= 1.573048 Days    $T_0=132.275505$  (BKJD)



# DV Model-Shift Uniqueness Test

005980354-01, P = 1.573005 Days, E = 130.744852 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	0.96	0	0	4.23	0.74	2.53	7.26	7.26	0.96	0.96	2.77	0.74	0.40	5.25

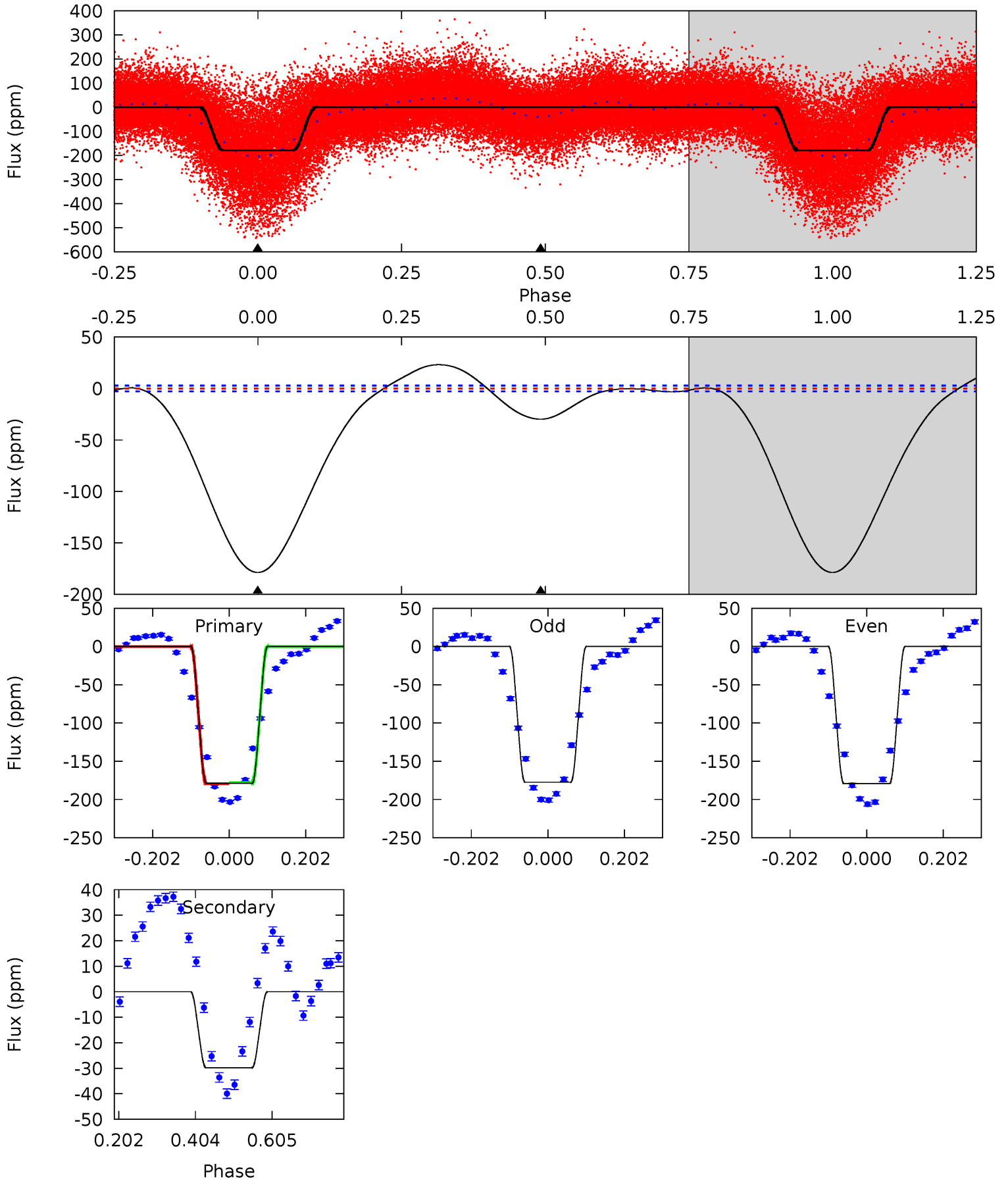




# Alt Model-Shift Uniqueness Test

005980354-01, P = 1.573048 Days, E = 130.702457 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
281.2	46.9	0	0	4.42	1.28	11.7	281.2	281.2	46.9	46.9	1.37	1.03	0.11	1.08





### Stellar Parameters For KIC 005980354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6770^{+70}_{-91}$	$4.232^{+0.067}_{-0.114}$	$-0.120^{+0.150}_{-0.150}$	$1.449^{+0.243}_{-0.142}$	$1.313^{+0.092}_{-0.092}$	$0.608^{+0.190}_{-0.203}$
	+1%/-1%	+2%/-3%	+125%/-125%	+17%/-10%	+7%/-7%	+31%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005980354-01 / KOI 5218.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1 \pm 1$	$0.57^{+0.50}_{-0.38}$	$2957^{+125}_{-88}$	$3073^{+2082}_{-6200}$	$0.612^{+5.476}_{-0.641}$
Alt.	$-30 \pm 1$	$2.26^{+0.66}_{-0.66}$	$2965^{+117}_{-92}$	$4304^{+688}_{-429}$	$2.717^{+2.646}_{-1.096}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

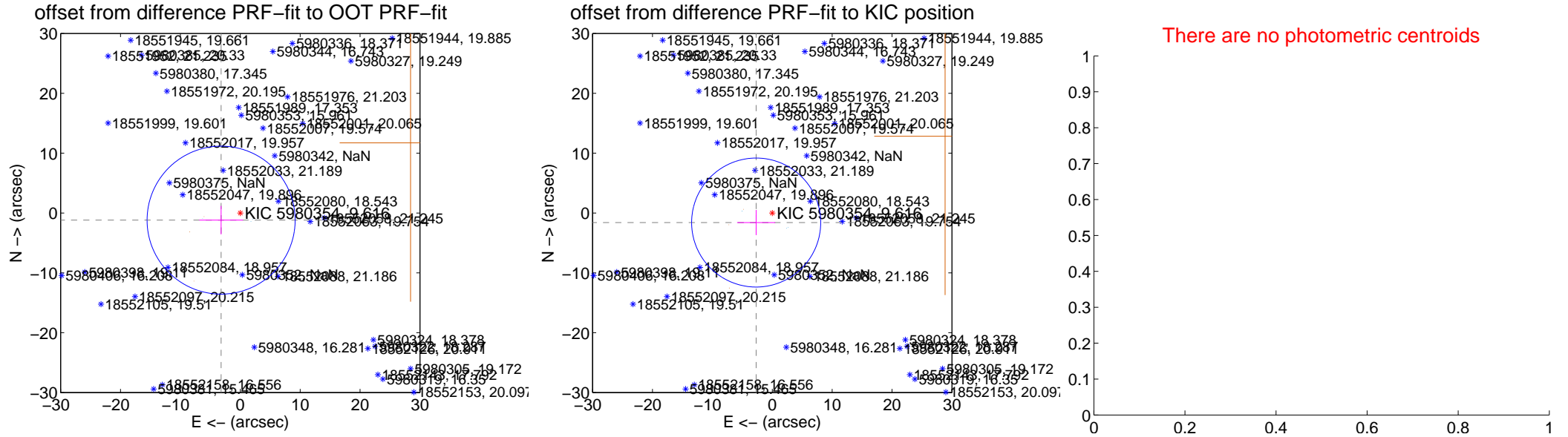
## DV Centroid Data

Supplemental centroid analysis for 005980354-01. **Kepler magnitude: 9.62.** Transit SNR 2.10

There are 4 quarters with good PRF difference image offsets

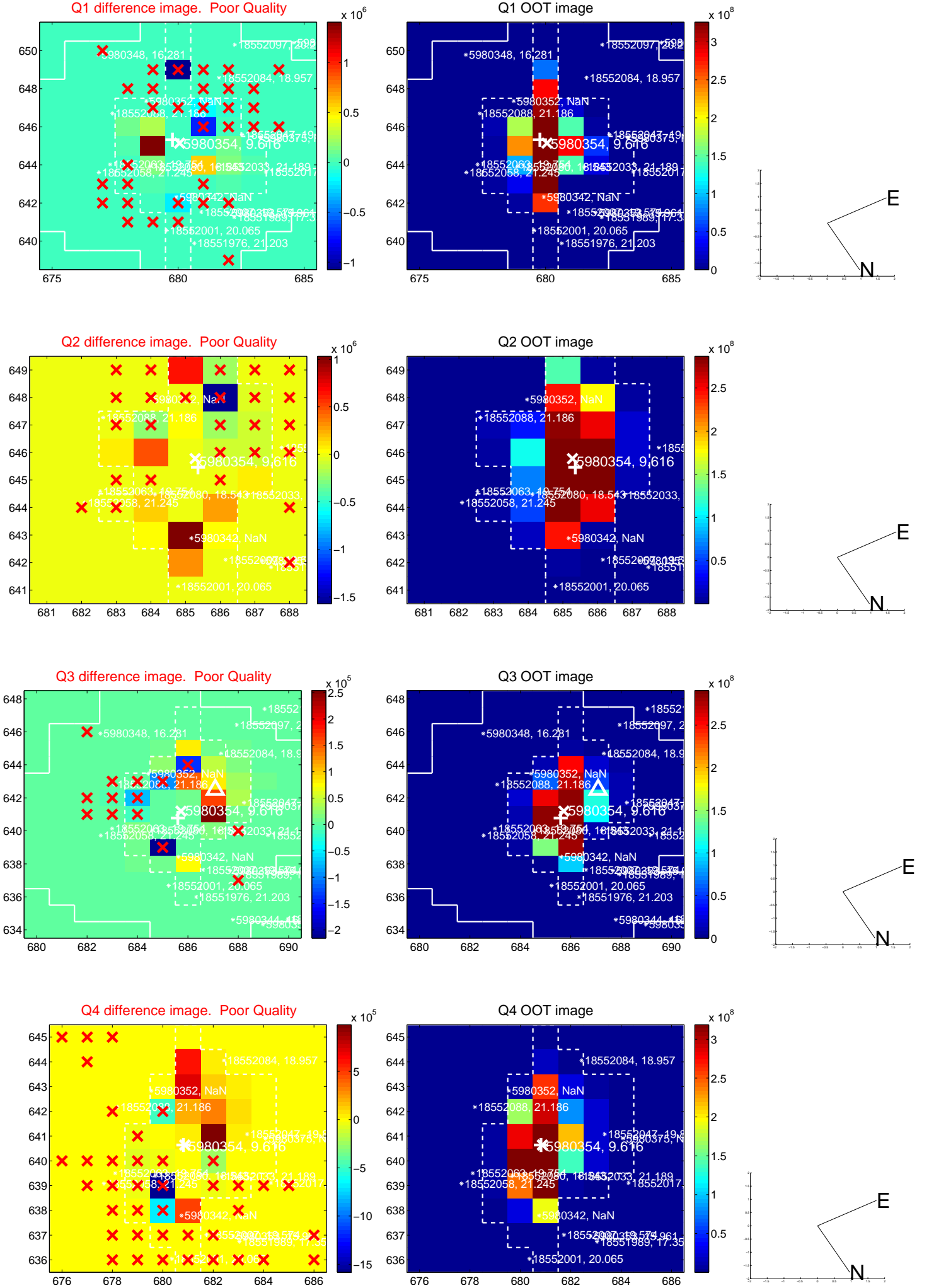
The direct PRF centroid is offset from the target star catalog position by about 1.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.416 \pm 4.120$	0.83	$3.201 \pm 3.656$	$-1.191 \pm 2.375$
PRF-fit source offset from KIC position	$3.125 \pm 3.592$	0.87	$2.687 \pm 3.179$	$-1.594 \pm 2.100$
photometric centroid source offset	—	—	—	—

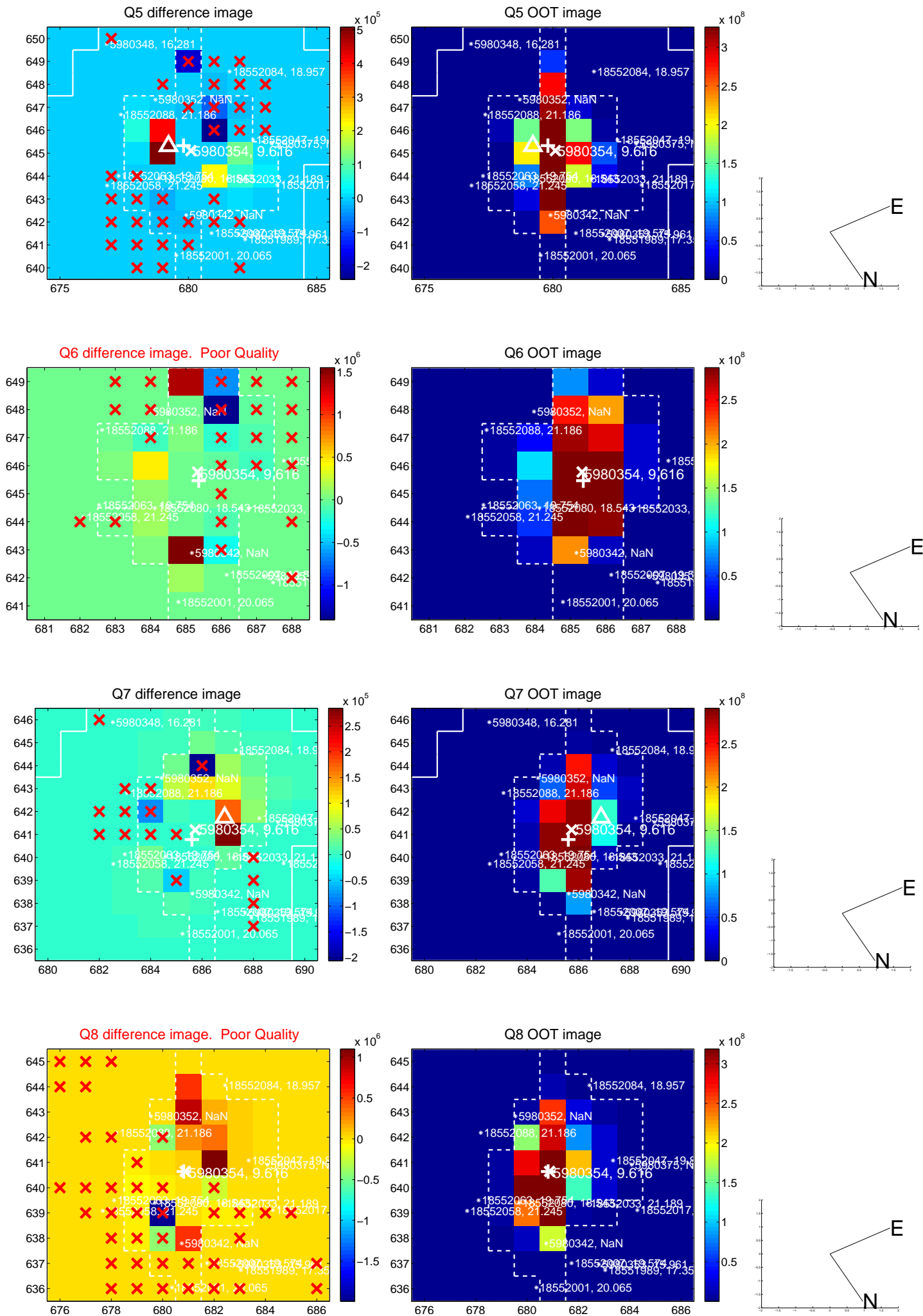


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

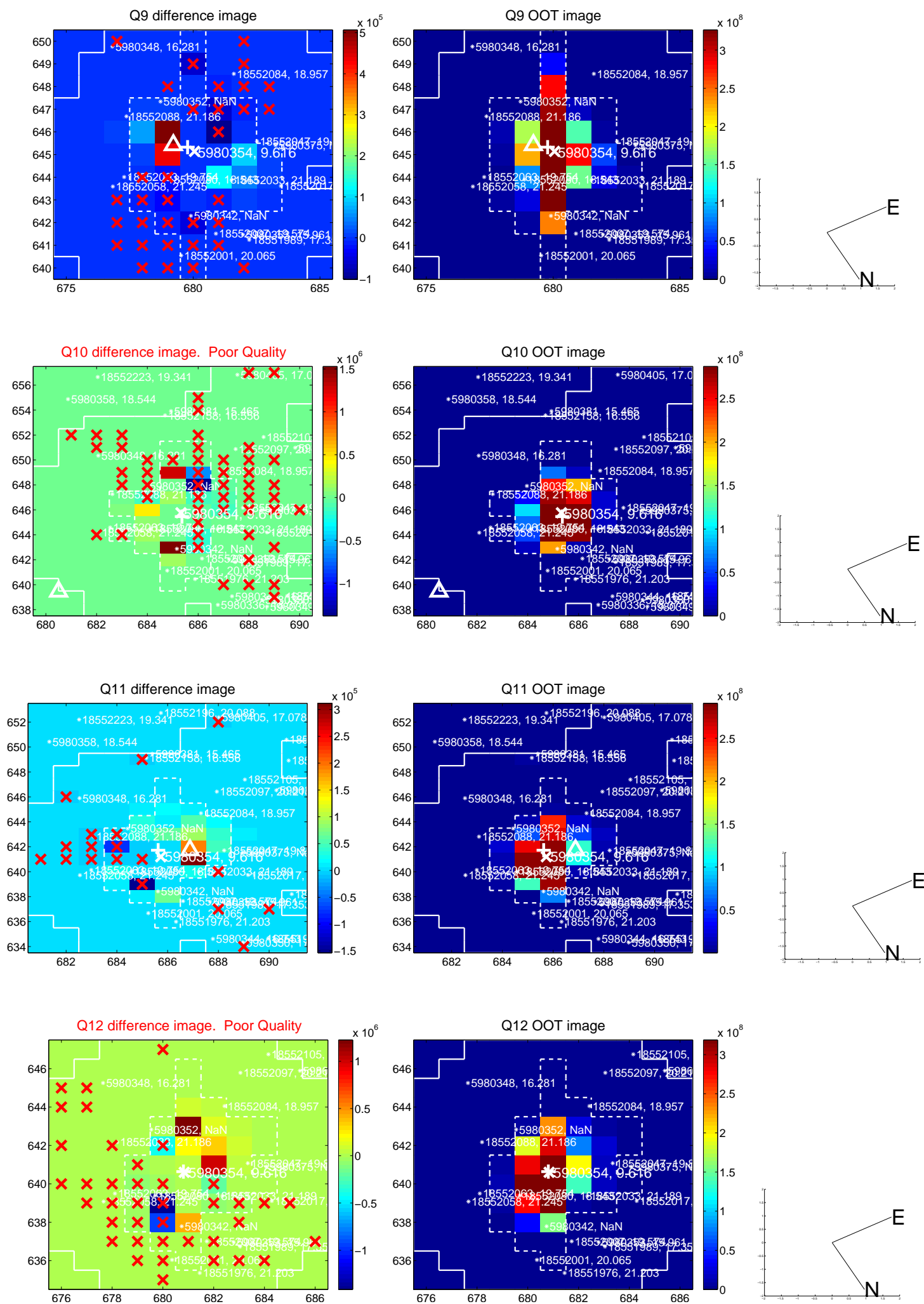


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

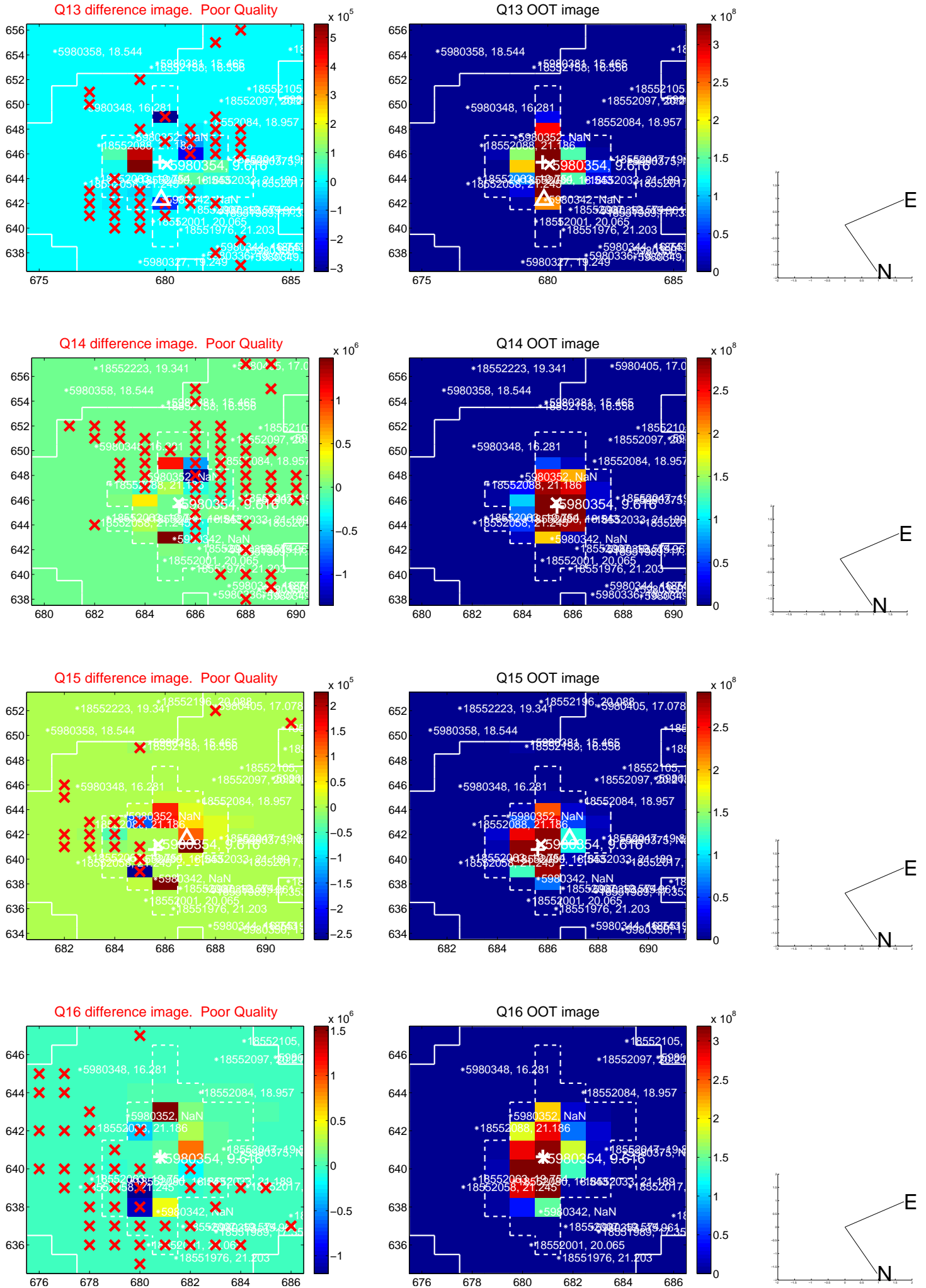




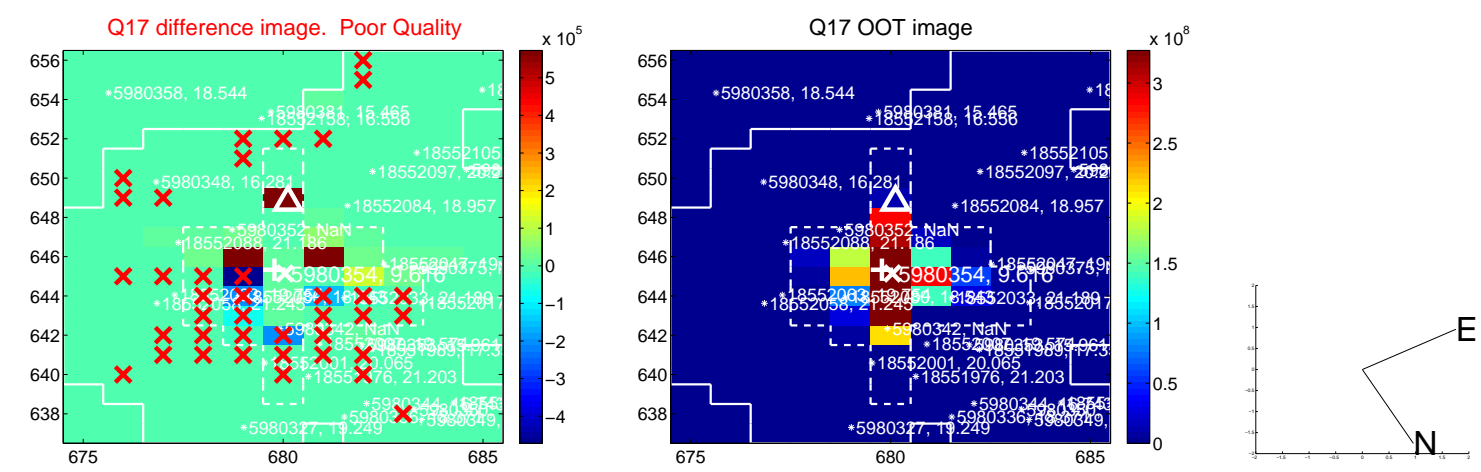
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

